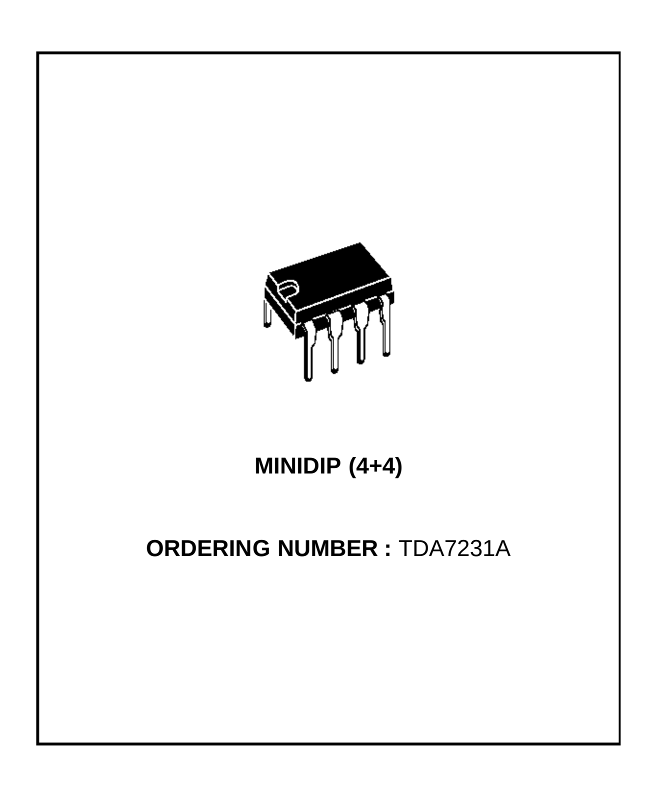


TDA7231A

1.6W AUDIO AMPLIFIER

- OPERATING VOLTAGE 1.8 TO 15 V
- LOW QUIESCENT CURRENT
- HIGH POWER CAPABILITY
- LOW CROSSOVER DISTORTION
- SOFT CLIPPING



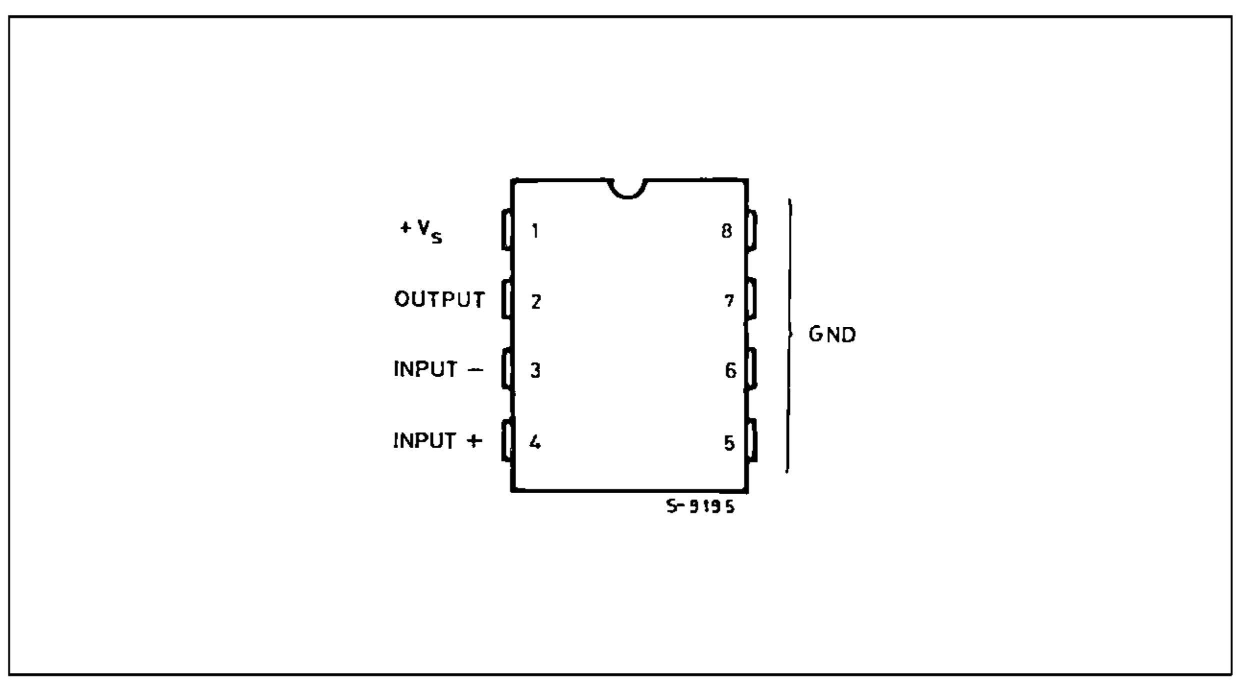
MINIDIP (4+4)

ORDERING NUMBER : TDA7231A

DESCRIPTION

The TDA7231A is a monolithic integrated circuit in 4 + 4 lead minidip package. It is intended for use as class AB power amplifier with wide range of supply voltage in portable radios, cassette recorders and players, etc.

PIN CONNECTION



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_s	Supply Voltage	16	V
P_{tot}	Total Power Dissipation at T_{amb} = 50 °C at T_{case} = 70 °C	1.25 4	W W
I_o	Output Peak Current	1	A
T_{stg}, T_j	Storage and Junction Temperature	– 40 to 150	°C

THERMAL DATA

Symbol	Parameter		Value	Unit
$R_{th\ j\text{-}amb}$	Thermal Resistance Junction-ambient	Max.	80	°C/W
$R_{th\ j\text{-}pins}$	Thermal Resistance Junction-pins	Max.	15	°C/W

ELECTRICAL CHARACTERISTICS (V_s = 6 V, T_{amb} = 25 °C, unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_s	Supply Voltage		1.8		15	V
V_o	Quiescent Out Voltage	V_S = 6 V V_S = 3 V		2.7 1.2		V V
I_d	Quiescent Drain Current			3.6	9	mA
I_b	Input Bias Current			100		nA
P_o	Output Power	d = 10% f = 1kHz V_s = 12V R_L = 8Ω V_s = 9V R_L = 4Ω V_s = 6V R_L = 8Ω V_s = 6V R_L = 4Ω V_s = 3V R_L = 4Ω V_s = 3V R_L = 8Ω		 1.8 1.6 0.4 0.7 110 70		 W W W W mW mW
d	Distortion	P_o = 0.2 W f = 1 kHz R_L = 8 Ω		0.3		%
G_v	Closed Loop Voltage Gain			38		dB
R_{in}	Input Resistance	f = 1kHz	100			kΩ
e_N	Total Input Noise	R_s = 10kΩ B = Curve A B = 22Hz to 22kHz		2 3		µV µV
SVR	Supply Voltage Rejection	f = 100Hz, R_g = 10kΩ	24	33		dB

Figure 1 : Test and Application Circuit

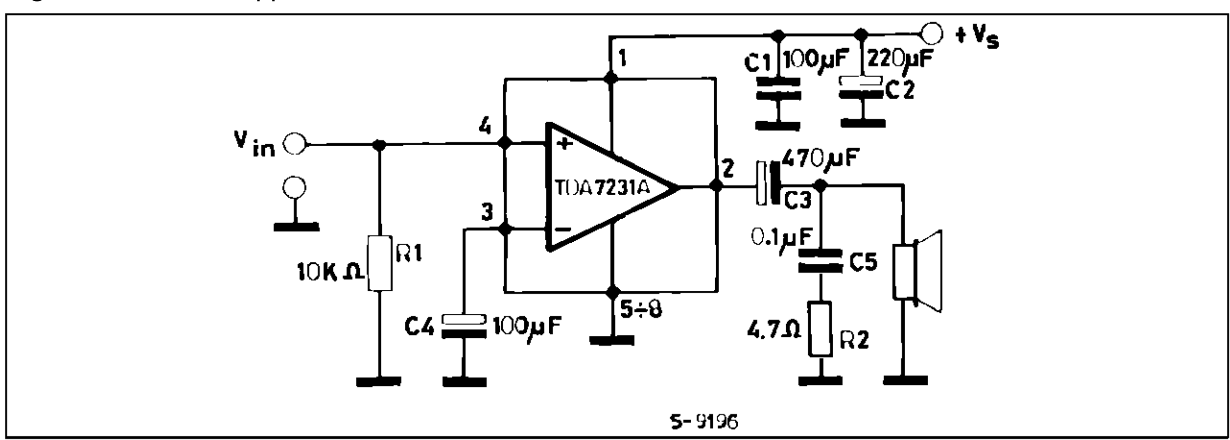


Figure 2 : P.C. Board and Components Layout of the figure 1 (1:1 scale)

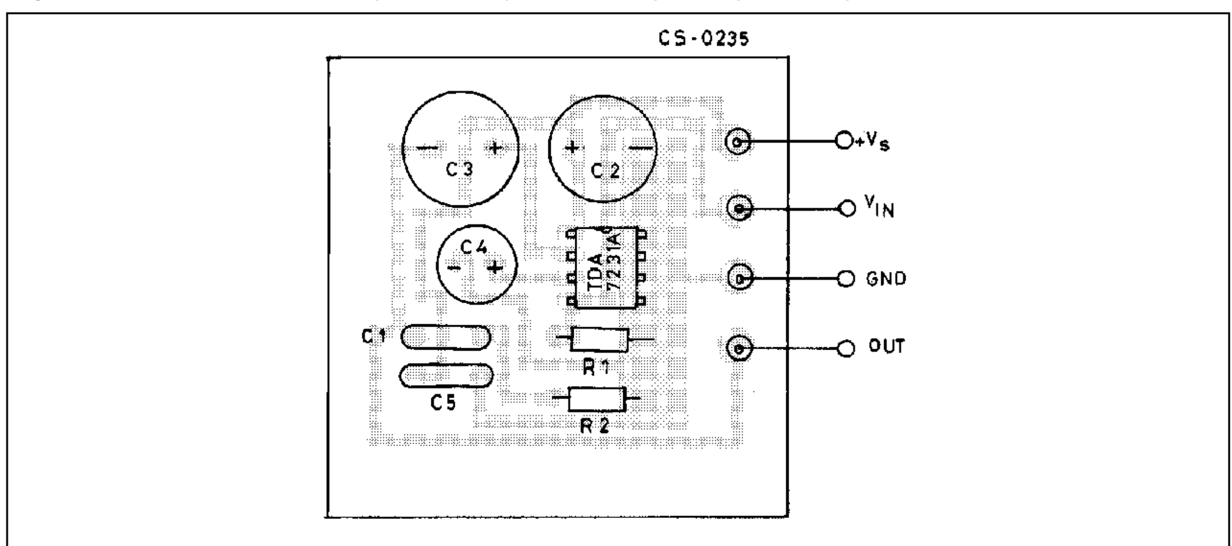


Figure 3 : Output Power versus Supply Voltage

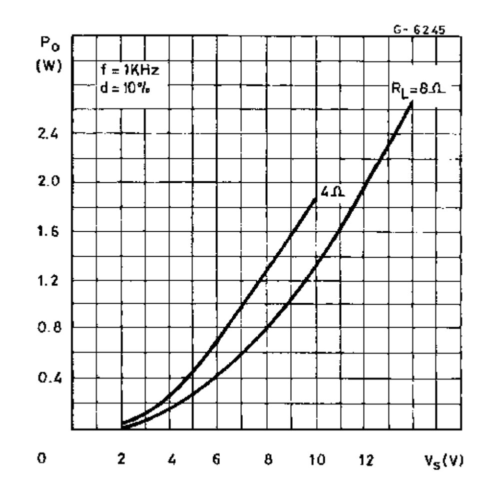


Figure 4 : Quiescent Current versus Supply Voltage

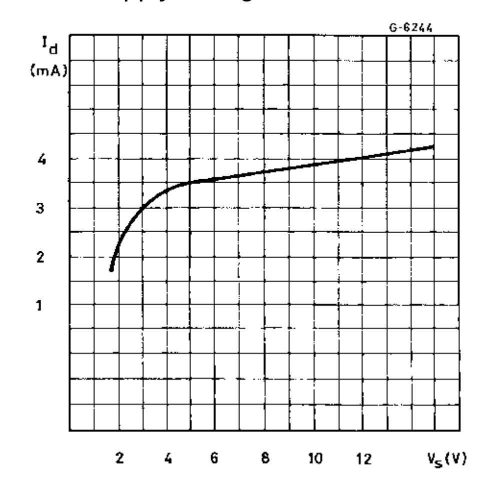


Figure 5 : Quiescent Output Voltage versus Supply Voltage

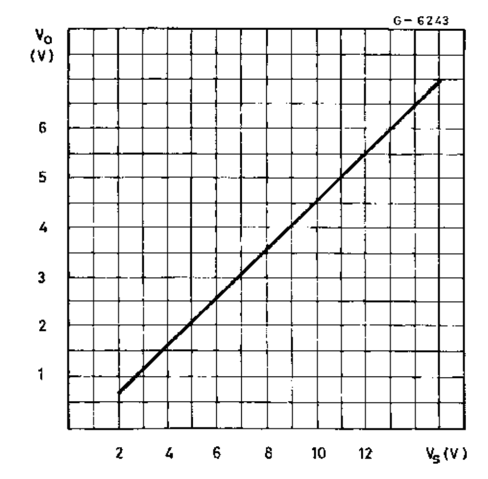
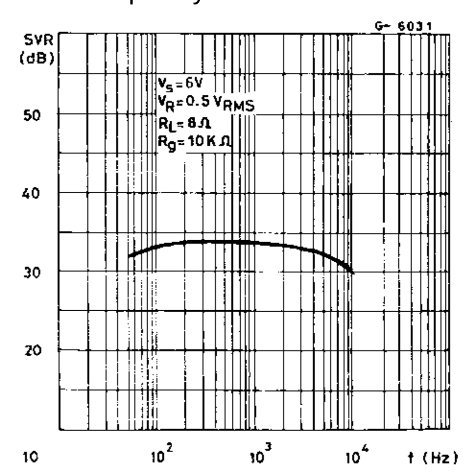
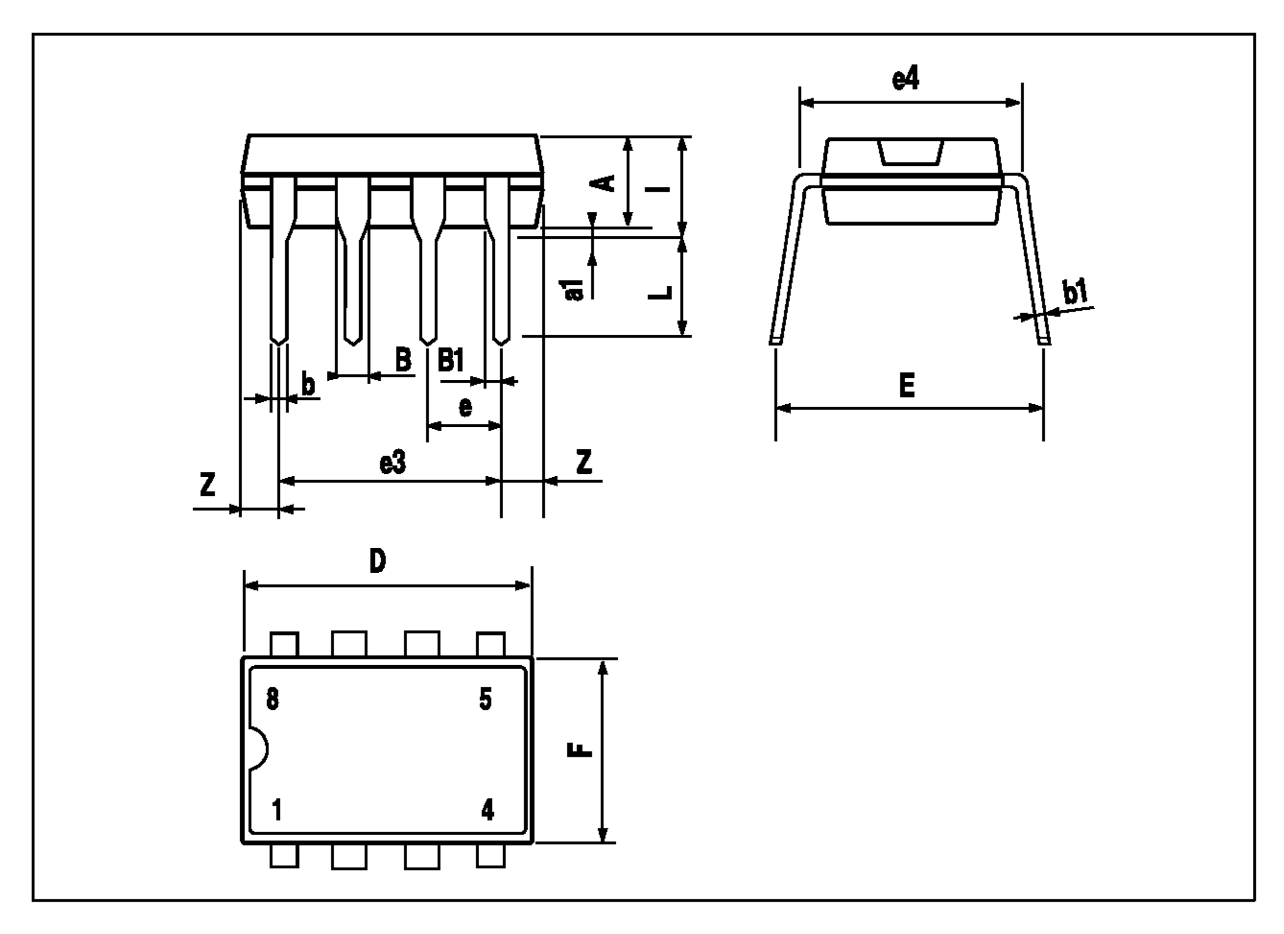


Figure 6 : Supply Voltage Rejection versus Frequency



MINIDIP PACKAGE MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A		3.3			0.130	
a1	0.7			0.028		
B	1.39		1.65	0.055		0.065
B1	0.91		1.04	0.036		0.041
b		0.5			0.020	
b1	0.38		0.5	0.015		0.020
D			9.8			0.386
E		8.8			0.346	
e		2.54			0.100	
e3		7.62			0.300	
e4		7.62			0.300	
F			7.1			0.280
I			4.8			0.189
L		3.3			0.130	
Z	0.44		1.6	0.017		0.063




SGS-THOMSON
MICROELECTRONICS